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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,102	03/26/2004	Martin Weigert	16274.159a	9738

22913 7590 01/28/2008  
WORKMAN NYDEGGER  
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SALT LAKE CITY, UT 84111

EXAMINER
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ROJAS, OMAR R

ART UNIT	PAPER NUMBER
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2874

MAIL DATE	DELIVERY MODE
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01/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/811,102

Applicant(s)

WEIGERT ET AL.

Examiner

Omar Rojas

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)                |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application      |
| Paper No(s)/Mail Date _____  | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

## DETAILED ACTION

### *Response to Arguments*

1. In view of the Pre-Appeal Brief Request for Review filed on 09/28/2007, PROSECUTION IS HEREBY REOPENED. A new grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

2. Applicant's arguments with respect to claims 1-9 and 11-29 have been considered but are moot in view of the new ground(s) of rejection.

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore:

- a. the "top surface" (claim 1) must be shown or the feature(s) canceled from the claim(s);

- b. the "optical axis of emergent light" (claims 1 and 27) must be shown or the feature(s) canceled from the claim(s);
- c. the "same optical squint angle but in substantially opposite directions" (claim 3) must be shown or the feature(s) canceled from the claim(s);
- d. the "TO package" and the "window cap" (claim 15) must be shown or the feature(s) canceled from the claim(s);
- e. the "plug-in device" (claim 20) must be shown or the feature(s) canceled from the claim(s);
- f. the "additional lens" (claim 23) must be shown or the feature(s) canceled from the claim(s); and
- g. the "oblique end face" (claim 24) must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **610**.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- a. The specification does not appear to mention "in substantially opposite directions" as described by claim 3 nor have applicant(s) disclosed where support can be found for this limitation.
- b. The specification does not appear to mention reflecting light "about 90 degrees" as described by claim 14 nor have applicant(s) disclosed where support can be found for this limitation.

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. **Claims 1, 2, 4, 5, 8, 9, 13, 14, 25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. US 6,921,214 B2 to Wilson in view of Patent No. US**

**6,769,816 B2 to Capewell et al. ("Capewell"). Both the Wilson and Capewell patents were made of record in a prior Office action.**

*In re* claims 1, 4, 8, 13, 14, 27, and 29, Wilson discloses an electrooptical module (100), comprising:

at least two electrooptical components (104A-104D) supported by a top surface of a common carrier (108) and operably coupled to an one optical waveguide (110A-110D), wherein:

the optical waveguide (110A-110D) is disposed above the top surface of the carrier (108);

the at least two electrooptical components (104A-104D) each are in an optical free-beam connection with the optical waveguide (110A-110D) by means of at least one lens (120A-120D);

as disclosed by Wilson at column 4, lines 17-19, the output lights from each of the lenses (120A-120D) may propagate "off-axis" and, therefore, Wilson clearly suggests the optical axis of each of the light beams could converge into the same waveguide;

wherein the at least two electrooptical components (104A-104D) comprises edge-emitting lasers arranged in a row (column 2, lines 60-62),

the electro optical module (100) further comprising a supporting element (106) that has reflective coating (116, shown in Fig. 2) assigned to the laser or the lasers, the supporting element (106) and the reflectively coating (116) being arranged in such a way that they reflect the light emitted by the laser or by the lasers (104A-104D) about 90 degrees onto the respectively assigned lens (column 3, lines 29-36). Figure 1 of Wilson is reproduced below.

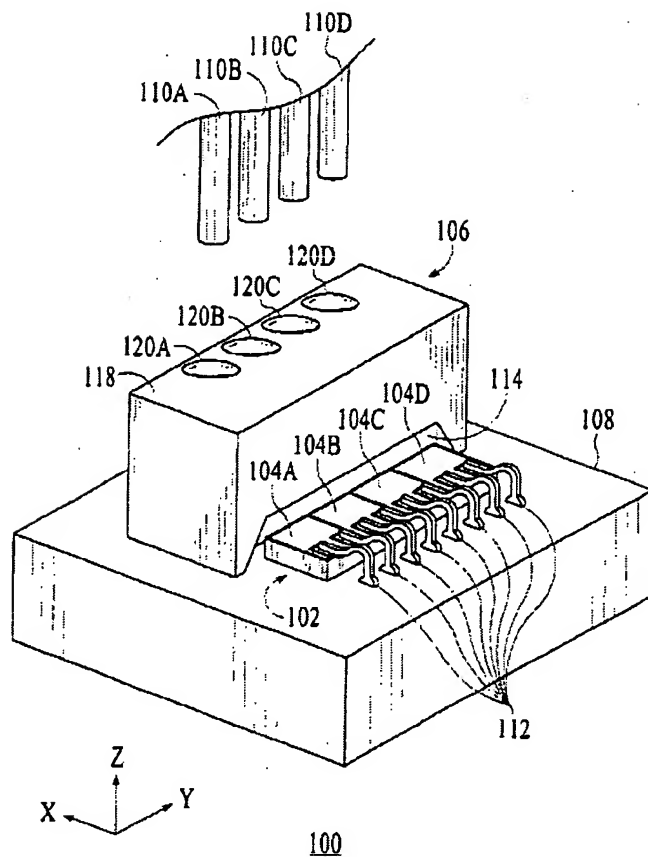


FIG. 1

*In re* claim 2, the use of an "optical squint angle" for the lenses (120A-120D) is clearly suggested in Wilson's disclosure at column 4, lines 15-20 in view of Fig. 3. Furthermore, the waveguides (110A-110D) are arranged perpendicular to the top surface of carrier (108) as seen in Fig. 1.

*In re* claim 5, the lenses (120A-120D) are arranged on the supporting element (106) and located spatially above the electrooptical components (104A-104D) as seen in Fig. 1.

*In re* claim 25, as seen in Fig. 3 of Wilson, at least one waveguide (110A) is arranged substantially perpendicular to the emergent light from electrooptical component (104A) and is coupled in "an optical free-beam connection" with the lenses (120A-120D).

Thus, Wilson only differs from claims 1, 2, 4, 5, 8, 9, 13, 14, 25, and 27-29 in that he does not specifically mention that his electrooptical module (100) comprises a "WDM module" or that his lasers (104A-104D) emit light at different wavelengths. Capewell, however, teaches a "CWDM" module (see Figure 7a) which uses vertical surface emitting lasers ("VCSELs") that emit light at different wavelengths into a single optical fiber. See Capewell at column 7, line 50 to column 8, line 11. The motivation or suggestion for combining is mentioned by Capewell at column 1, lines 13-16, i.e. high speed data over long spans of optical fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 1, 2, 4, 5, 8, 9, 13, 14, 25, and 27-29 in view of Wilson combined with Capewell.

**8. Claims 1-5, 8, 9, 11-13, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,731,665 B2 to Trezza ("Trezza") in view of Capewell. The Trezza patent was made of record in a prior Office action.**

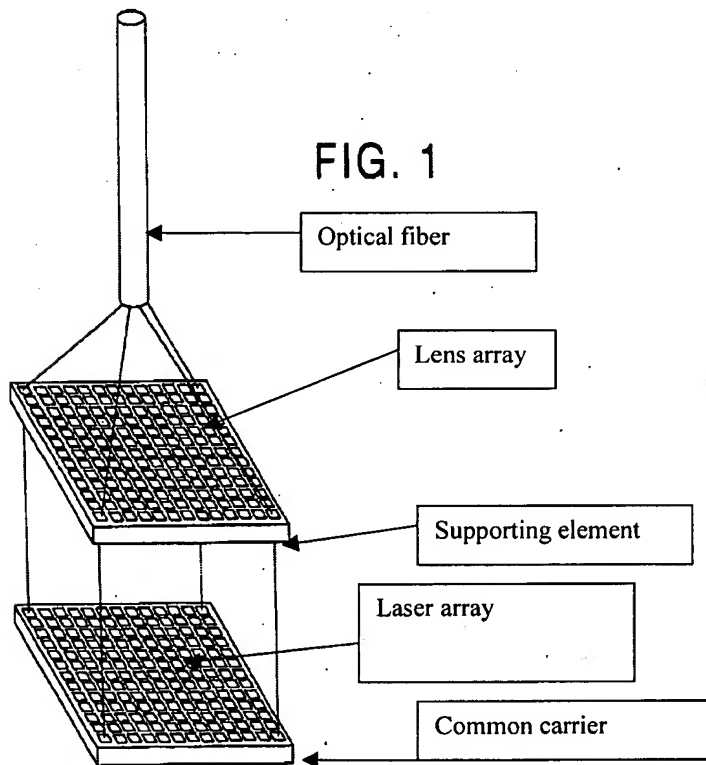
*In re* claims 1 and 8, Trezza discloses an electrooptical module (e.g., Figures 1-3), comprising:  
at least two lasers supported by a common carrier and operably coupled to at least one optical fiber, wherein the optical fiber is disposed above the carrier;



the at least two lasers are in an optical free-beam connection with the optical fiber by means of at least one lens;

all the light from each of the lenses intersects the optical fiber at about the same point;  
and

A modified Figure 1 of Trezza is reproduced below. Additional labeling has been provided to Figure 1 of Trezza to more clearly show the claimed features.



*In re* claims 2-5, 11-13, and 25, the specific limitations are clearly apparent from Trezza's disclosure at column 1, line 42 to column 2, line 21 in view of the modified Fig. 1 shown above.

Thus, Trezza only differs from claims 1-5, 8, 9, 11-13, and 25 in that he does not specifically mention that his electrooptical module comprises a "WDM module" or that his lasers emit light

at different wavelengths. Capewell, as mentioned above, teaches a "CWDM" module (see Figure 7a) which uses vertical surface emitting lasers ("VCSELs") that emit light at different wavelengths into a single optical fiber. See Capewell at column 7, line 50 to column 8, line 11. The motivation or suggestion for combining is mentioned by Capewell at column 1, lines 13-16, i.e. high speed data over long spans of optical fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 1-5, 8, 9, 11-13, and 25 in view of Trezza combined with Capewell.

**9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson or Trezza in view of Capewell as applied to claim 1 above, and further in view of Patent No. US 6,181,855 B1 to Richter et al. ("Richter"). The Richter patent was made of record in a prior Office action**

*In re* claims 6 and 7, Wilson or Trezza in view of Capewell only differs from claims 6 and 7 in that neither reference shows arranging the electrooptical components on individual auxiliary carriers as claimed. Richter, on the other hand, discloses that arranging individual electrooptical components on auxiliary carriers is an old, traditional technique. See Richter at column 1, lines 11-21. Applicant(s) have not disclosed a benefit or perceived criticality for using individual auxiliary carriers. Using individual auxiliary carriers to mount the electrooptical components of Wilson or Trezza would have only required common sense because Richter teaches that was a traditional way of mounting electrooptical components. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention

specified by claims 6 and 7 in view of Wilson or Trezza combined with Capewell, and further in view of Richter.

**10. Claims 15-22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Capewell as applied to claim 14 above, and further in view of Patent No. US 6,985,281 B2 to Wagner et al. ("Wagner"). The Wagner patent was made of record in a prior Office action.**

*In re* claims 15, 16, 20, 21, 22, and 26, Wilson in view of Capewell only differs from these claims in that neither reference discloses a TO package, a window cap, a ceramic substrate, an optical plug-in device, a covering cap, and an adjusting ring as claimed. Wagner, on the other hand, discloses a TO package (Figures 5A-11), a window cap (110/210/510/610), a ceramic substrate (112), an optical plug-in device (170/530/810), a covering cap (110/210/510/610), and an adjusting ring (172/530/810). See Wagner at columns 4, line 10 to column 9, line 35 for further details. The motivation for combining Wagner with Wilson and Capewell would have been to provide protection for their electrooptical components or to provide a low-cost, small footprint package. See Wagner at column 2, lines 64-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 15, 16, 20, 21, 22, and 26 in view of Wilson combined with Capewell, and further in view of Wagner.

*In re* claims 17-19, because of the alternative language used in base claim 16, the limitations specified by claims 17-19 are not required by the claimed invention. Therefore, claims 17-19 are

considered unpatentable over Wilson combined with Capewell and Wagner for the same reasons mentioned with respect to claim 16.

**11. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Capewell as applied to claim 1 above, and further in view of Patent No. 5,455,879 to Modavis et al. ("Modavis").**

*In re* claims 23 and 24, Wilson in view of Capewell only differs from claims 23 and 24 in that neither reference teaches an additional lens formed on the waveguide or an oblique end face as claimed. Modavis, on the other hand, discloses a lens/oblique end face (16/21) formed on a waveguide (10). The motivation for combining Modavis with Wilson and Capewell would have been to provide improved optical coupling with a laser having an elliptical mode field. See Modavis at column 2, lines 19-22. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 23 and 24 in view of Wilson combined Capewell, and further in view of Modavis.

#### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Omar Rojas/  
Patent Examiner, Art Unit 2874

or  
January 22, 2008

/HEMANG SANGHANI/  
PRIMARY EXAMINER  
ART UNIT 2874